

CLAIMS

What is claimed:

1. A hybrid disc comprising:

a substrate;

a label printed surface formed on said substrate;

a first recording surface having identification information expressing a disc type, recorded in a predetermined recording area, said first recording surface being formed at a first interval below said label printed surface; and

a second recording surface formed at a second interval below said label printed surface;

wherein said second interval is longer than said first interval.

2. A hybrid disc according to claim 1, wherein said first recording surface is a CD (compact disc) recording surface on which CD data is recorded, and said second recording surface is a DVD (digital versatile disc) recording surface on which DVD data is recorded.

3. A hybrid disc according to claim 2, wherein said predetermined recording area is a file which is generally not used, a sector which is predetermined, or a TOC (table of contents).

4. A method of discriminating a hybrid disc in a playback apparatus, the hybrid disc having identification information expressing a disc type being and recorded in a predetermined recording area, the method comprising the steps of:

irradiating a CD (compact disc) laser beam on an optical disc installed in the playback apparatus;

if the CD laser beam reflected from the optical disc is readable data, checking whether the identification information is recorded in the predetermined recording area; and

8 recognizing the optical disc as the hybrid disc, if the identification information is
9 recorded in the predetermined recording area.

1 5. A method of discriminating a hybrid disc according to claim 4, further
2 comprising the step of setting a CD playback mode, if the identification information is not
3 recorded in the predetermined recording area.

1 6. A method of discriminating a hybrid disc according to claim 4, further
2 comprising the steps of:
3 displaying a message requesting a selection of one of a CD playback mode and a
4 DVD playback mode, if the identification information is recorded in the predetermined
5 recording area; and
6 selectively setting one of the CD playback mode and the DVD playback mode
7 according to the selection of the playback modes.

1 7. A method of discriminating a hybrid disc according to claim 6, wherein said
2 predetermined recording area is a file which is generally not used, a sector which is
3 predetermined, or a TOC (table of contents).

1 8. A method of discriminating a hybrid disc according to claim 7, further
2 comprising the step of irradiating the CD laser beam on the optical disc to read a CD type of
3 reproduction data from the optical disc if the selected playback mode is the CD playback
4 mode, and irradiating a DVD laser beam on the optical disc to read a DVD type of
5 reproduction data if the selected playback mode is the DVD playback mode.

1 9. A method of discriminating a hybrid disc according to claim 4, further
2 comprising the steps of:
3 automatically selecting one of the CD playback mode and the DVD playback mode if
4 the identification information is recorded in the predetermined recording area; and
5 reproducing data from the optical disc according to the selected playback mode.

1 10. A method of discriminating a hybrid disc according to claim 4, further
2 comprising the steps of:

3 automatically selecting one of a CD playback mode and a DVD playback mode if the
4 identification information is recorded in the predetermined recording area; and

5 irradiating the CD laser beam on the optical disc to read a CD type of reproduction
6 data from the optical disc if the selected playback mode is the CD playback mode, and
7 irradiating a DVD laser beam on the optical disc to read a DVD type of reproduction data if
8 the selected playback mode is the DVD playback mode.

1 11. A method of discriminating a type of an optical disc installed in a playback
2 apparatus, comprising the steps of:

3 (a) irradiating a CD (compact disc) laser beam on the optical disc;
4 (b) determining whether the CD laser beam reflected from the optical disc is readable
5 data;

6 (c) checking whether identification information is recorded in a predetermined
7 recording area of the optical disc if the reflected CD laser beam is readable data; and

8 (d) determining the optical disc to be a hybrid disc containing data of at least two
9 different formats if the identification information is recorded in the predetermined recording
10 area.

11 12. The method according to claim 11, further comprising the step of (e)
12 determining the optical disc to be a CD if the reflected CD laser beam is readable data in
13 said step (b) and the identification information is not recorded in the predetermined recording
14 area in said step (c).

1 13. The method according to claim 11, further comprising the steps of:

2 (e) irradiating a DVD (digital versatile disc) laser beam on the optical disc if the
3 reflected CD laser beam is not readable data in said step (b);

4 (f) determining whether the DVD laser beam reflected from the optical disc is
5 readable data; and

6 (g) determining the optical disc to be a DVD if the reflected DVD laser beam is
7 readable data in said step (f).

1 14. The method according to claim 12, further comprising the steps of:
2 (f) irradiating a DVD (digital versatile disc) laser beam on the optical disc if the
3 reflected CD laser beam is not readable data in said step (b);

4 (g) determining whether the DVD laser beam reflected from the optical disc is
5 readable data; and

6 (h) determining the optical disc to be a DVD if the reflected DVD laser beam is
7 readable data in said step (g).

1 15. The method according to claim 13, further comprising the step of:

2 (h) discriminating the optical disc to be a type other than the CD and the DVD if the
3 reflected DVD laser beam is not readable data in said step (f).

1 16. The method according to claim 14, further comprising the step of:

2 (i) discriminating the optical disc to be a type other than the CD and the DVD if the
3 reflected DVD laser beam is not readable data in said step (g).

1 17. The method according to claim 11, further comprising the steps of:

2 (e) awaiting an input from a user requesting selection of one of a CD playback mode
3 and a DVD playback mode if the optical disc is determined to be the hybrid disc in said step
4 (d); and

5 (f) reproducing data from the hybrid disc according to the selected one of the CD
6 playback mode and the DVD playback mode.

1 18. The method according to claim 16, further comprising the steps of:

2 (j) awaiting an input from a user requesting selection of one of a CD playback mode
3 and a DVD playback mode if the optical disc is determined to be the hybrid disc in said step
4 (d); and

5 (k) reproducing data from the hybrid disc according to the selected one of the CD
6 playback mode and the DVD playback mode.

1 19. A hybrid disc comprising:
2 a substrate,
3 a first recording surface formed at a first level in said substrate, said first recording
4 surface including a first format type of reproduction data and a predetermined recording area
5 having identification information indicating that the hybrid disc is a hybrid disc type; and
6 a second recording surface formed at a second level in said substrate, said second
7 recording surface including a second format type of reproduction data different from said
8 first type of reproduction data.

1 20. A playback apparatus to distinguish a type of an optical disc from which data
2 is to be reproduced, comprising:
3 an optical unit to irradiate a first format type laser beam on the optical disc; and
4 a processor to read the first format type laser beam reflected from the optical disc, to
5 check whether the optical disc has identification information recorded in a predetermined
6 recording area of the optical disc indicating that the optical disc is a hybrid disc if the
7 reflected first format type laser beam is readable, and to determine that the optical disc is the
8 hybrid disc if the optical disc has the identification information in the predetermined
9 recording area.

1 21. The playback apparatus as claimed in claim 20, wherein the processor
2 determines the optical disc to be a first type format optical disc if the reflected first format
3 type laser beam is readable; causes said optical unit to irradiate a second format type laser
4 beam on the optical disc if the reflected first format type laser beam is not readable, and
5 determines the optical disc to be a second type format optical disc if the second type format
6 laser beam reflected from the optical disc is readable.

1 22. The playback apparatus as claimed in claim 21, wherein the first type format
2 is a compact disc (CD) format and the second type format is a digital versatile disc (DVD)
3 format.

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